

METHOD OF FORMING PILLARS IN A FULLY INTEGRATED THERMAL INKJET PRINthead

ABSTRACT OF THE DISCLOSURE

Pillars are formed in a fully integrated thermal inkjet printhead to prevent particles from entering into a nozzle chamber along an ink refill channel. The pillars are formed after a step of applying a thin film structure to a substrate. At one step, pits are etched through the thin film structure. At another step, material for an orifice layer is deposited into the pits. At another step, a firing chamber is etched into the orifice layer. At another step, a trench is etched into the backside of the wafer in the vicinity of the filled pits. The material filling each pit is not removed and remains in place to define the respective pillars. Two or more pillars are formed within the trench for each inkjet nozzle chamber. Alternatively pillars are formed by depositing material into the underside trench and performing photoimaging processes.